



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/608,312 | 06/27/2003 | Fadi A. Mahmoud | ADAPP230 | 8946 |

25920 7590 09/14/2006

MARTINE PENILLA & GENCARELLA, LLP
710 LAKEWAY DRIVE
SUITE 200
SUNNYVALE, CA 94085

EXAMINER

RIAD, AMINE

ART UNIT PAPER NUMBER

2113

DATE MAILED: 09/14/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Detailed Action

Claims 1-22 have been presented for examination.

Claims 1-9, 15-22 have been rejected.

Claims 11,12, 13, and 14 have been allowed.

Claim 10 has been cancelled

In view of the recent amendment the rejection of claims 12, and 14 has been withdrawn.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-4, 6-8,15-18, 20-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cheston US Patent 6,862,681 in view of McBride US Patent Application Publication 2002/0083367.

Claims 1-4, 6-8,15-18, 20-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cheston US Patent 6,862,681 in view of McBride US Patent Application Publication 2002/0083367.

In regard to claim 1, Cheston discloses a method for recovering boot up data in a computer system, (Column 2; line 58-59) comprising:

- storing boot up data in a first container that is accessible by an operating system; (Column 2; line 62-64 ["MASTER BOOT RECORD in a first bootable device is copied to an alternate storage" copying from first device to an alternate storage

Art Unit: 2113

inherently suggests that MASTER BOOT RECORD was stored in the first device.

In addition, because the first device is bootable inherently suggests that the first device is accessible by an operating system])

- copying the boot up data from the first, container to a second container that is inaccessible by the operating system ; (Column 5; line 57-60) and
- if boot up using the boot up data from the first container fails , (Figure 4; items 74 and 76).

The difference between the claim and the cheston reference is the fact that Cheston teaches accessing boot up data in a second storage while the claim requires copying boot up data from the secure storage to the first storage then accessing the boot up data in the first storage.

McBride teaches a computer system which copies boot up data from a second container to the first container, (Paragraph 66; "The copy of the master boot record in the DFI logical drive (second container) is decompressed onto the main logical drive (First container)" decompressed is interpreted as disclosed in the abstract of the application as installed which suggests inherently that an image is being copied).

McBride further teaches booting up the computer system using the boot up data copied into the first container from the second container. (Paragraph 73; "the master boot record on the main logical drive is set to reboot from the main logical drive")

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the feature of copying the boot up data from second container into the first container, and booting the computer system using the data copied to the

Art Unit: 2113

first container from the second container, taught by McBride, into the boot up recovery method of Cheston. A person of ordinary skill in the art would have been motivated to make this modification because keeping a copy of boot up data in a second storage area inaccessible to the operating system would protect it from being corrupted

In regard to claim 15, Cheston discloses a method for recovering boot up data comprising:

- generating a first container (hidden partition) in a storage system, the first container being inaccessible to the operating system (Column 6; line 6-10)
- generating a second container (visible partition) in the storage system, (Column 6; line 9)
- copying boot up data from the second container to the first container; (Column 5; line 57-60) when input requesting boot recovery is received,
- setting a recovery bit, (Column 2; line 65-66)
- unsetting the recovery bit. (Column 7; line 19 "activating a read only BIOS flag locking mechanism to prevent unauthorized setting and resetting of the BIOS flag". Cheston discloses locking setting and resetting the flag this is interpreted as resetting the flag is done once the recovery is finished in case it needs to recover another time)

Cheston does not disclose copying the boot up data from the first container to the second container the first container being inaccessible to an operating system, and

Art Unit: 2113

booting up the computer system using the boot up data copied into the first container from the second container.

McBride teaches copying the boot up data from the first container to the second container, (Paragraph 66; "The copy of the master boot record in the DFI logical drive is decompressed onto the main logical drive" decompressed is interpreted as disclosed in the abstract of the application as installed which suggests inherently that an image is being copied) booting up the computer system using the boot up data copied into the first container from the second container. (Paragraph 73; "the master boot record on the main logical drive is set to reboot from the main logical drive")

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the feature of copying the boot up data from first container into the second container, and booting the computer system using the data copied to the first container from the second container, as taught by McBride, into boot up recovery method of Cheston. A person of ordinary skill in the art would have been motivated to make this modification because keeping a copy of boot up data in a first storage area inaccessible to the operating system would protect it from being corrupted.

Note: Examiner notes that claim 1 refers to the storage accessible to the operating system as first container and to the storage inaccessible to the operating system as the second container, while claim 15 does the opposite.

In regard to claims 2, Cheston discloses that the inaccessible container (second for claim 2, and first for claim 16) is an operating system secure sector. (Column 5; line 57-58)

Art Unit: 2113

In regard to claims 3 and 17, Cheston discloses that the accessible (first for claim 2, and second for claim 17) container is at least a portion of at least one disk drive. (Column 5; line 57)

In regard to claims 4 and 18, Cheston discloses that the boot data includes at least a master boot record and system files. (Column 2; line 63-64) and (Column 3; line 2 ["to boot the system" is interpreted that with the MBR there is system files])

In regard to claims 6, 20 and 21, Cheston discloses that the first container is at least a portion of at least one storage device. (Column 5; line 14-16 [this is when the system is trying to boot from the first location before the failure is recognized])

In regard to claim 7, Cheston discloses that the first container is a logical storage unit. (Column 5; line 18-20)

In regard to claim 8, Cheston discloses that the second container is a logical storage unit. (Column 5; line 18-20)

In regard to claim 22, Cheston discloses that the storage system includes at least one disk drive. (Figure 1; item 5)

Art Unit: 2113

In regard to claim 16, •

Cheston discloses a method for recovering boot up data as recited in claim 15, wherein copying boot up data further includes copying boot up data, in response to determining failure of a boot up process, from the first container to master boot record location and a system file location within the second container

(Column 5; lines 66; www.ncits.org/scopes/1367.htm incorporated by reference, "This standard describes firmware layer that may be used to both place and execute system diagnostics on a protected area of the system hard disc. The net effect of these capabilities is that a system may ship with embedded diagnostic and rescue capabilities, these capabilities are known to be reliable by the system manufacturer, and may not be easily corrupted by the user.")

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 5, 9, and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cheston US Patent 6,862,681 in view of McBride US Patent Application Publication 2002/0083367, and further in view of Gagne US Patent 6,581,143.

Art Unit: 2113

In regard to claims 5 and 19, Cheston/McBride discloses a method for recovering boot up data as recited in parent claims 1 and 15.

Cheston/McBride does not disclose that the first container is accessible through firmware on a host adapter.

Gagne teaches a first container (Figure 1; item 31) is accessible through firmware (Figure 1; item 22) on a host adapter (Figure 1; item 27)

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the feature of accessing a container through firmware on a host adapter, as suggested by Gagne, into boot up recovery method of Cheston. A person of ordinary skill in the art would have been motivated to make this modification because accessibility through host adapters offers the ease of connectability to storage devices.

In regard to claim 9, Cheston/McBride discloses a method for recovering boot up data as recited in parent claims 1.

Cheston/McBride does not disclose copying is done by a firmware on a host adapter.

Gagne teaches copying is done by a firmware on a host adapter. (Column 2; line 56-60)

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the feature of copying boot up data using firmware on a host adapter, as taught by Gagne, into boot up recovery method of Cheston. A person of ordinary skill in the art would have been motivated to make this modification because

copying host adapter uses fixed size pages to eliminate delay due to queuing, maintains a steady stream of data, and maximizes bandwidth

Response to Applicant's Argument

Applicant arguments filed on July 5, 2006 have been fully considered, and are not persuasive.

In regard to the argument in which the Applicant states, "Nonetheless, there is no suggestion to combine the teaching of McBride et al. with Cheston et al., because doing so would render a desired function of McBride et al. *invention inoperable*." Examiner respectfully disagrees, Examiner points Applicant to the backgrounds of both Cheston and McBride, where first Cheston discloses "Removable storage media such as diskettes or CD ROM's are conventionally utilized to store a copy of the MBR that may be restored in case of boot failure. Such a method relies, however, on the diligence of an individual to maintain and keep track of backup diskettes and is therefore inconvenient", and second McBride discloses "there is no guarantee that the specific methods of restoring through this software will produce a system that boots and loads exactly as it did when it came from the factory. One prior art mechanism of solving these types of problems in standard back up and restore software is using image-ghosting software". It is clear that both Cheston and McBride are solving the same problem, which is recovering from a failure by utilizing a copy of the application or software failed. As a result, Applicant's argument is not valid, and consequently there is a strong motivation to combine Cheston and McBride.

In regard to the argument in which the Applicant states " Cheston et al. did not suggest copying boot up data from O/S inaccessible storage to O/S accessible storage and then booting from the data copied into the O/S accessible storage,are completely silent with respect to preventing contamination of infected boot data on a computer system on which the back up boot data is stored" Examiner respectfully disagrees, Cheston shows (Column 5; lines 60-67) that a copy of the MBR is saved in a location where it is protected from any corruption (is not accessed by the Operating System) in a hidden partition. In addition Cheston incorporates by reference the site <http://www.ncits.or/scopes/1367.htm>, that discloses

"Project 1367 - NCITS 346, Protected Area Run Time Interface Extension Services (PARTIES)

This Standard describes a BIOS firmware layer that may be used to both place and execute system diagnostics on a protected area of the system hard disk. The purpose of these diagnostics is to accurately determine for both the user and a technical support engineer that the hard drive is functioning correctly. These diagnostics are placed in a protected area of the disk drive because they are less vulnerable to attack from viruses, system software corruption, and the user. The firmware layer described herein may also be used to run DOS based rescue utilities once the drive has been shown to be working by the diagnostics described above. The net effect of these capabilities is that a system may ship with embedded diagnostic and rescue capabilities, these capabilities are known to be reliable by the system manufacturer, and may not be easily corrupted by the user.

" The above demonstration makes the argument invalid, because the Examiner considers the diagnostics as an application that is being saved and not corrupted.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Contact


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Amine Riad whose telephone number is 571-272-8185. The examiner can normally be reached on 8-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Beausoliel can be reached on 571-272-3645. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2113

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

AR
Amine Riad
Patent Examiner
9/5/2006


ROBERT W. BRANSFORD
SUPERVISOR/PATENT EXAMINER
TECHNOLOGY CENTER 2100